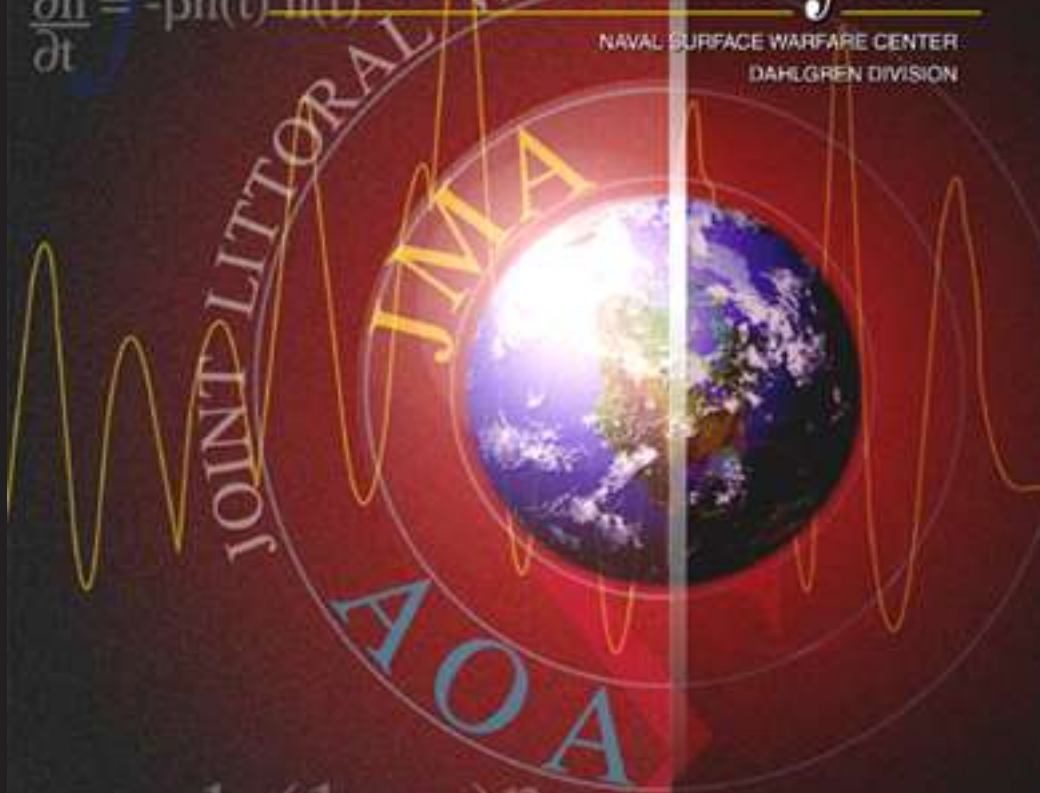


NAVAL SEA SYSTEMS COMMAND

$$\frac{\partial n}{\partial t} = -\alpha n(t) \frac{1}{n(t)}$$
$$\frac{\partial n}{\partial t} = -\beta n(t) \frac{1}{n(t)}$$

# Warfare Analysis

NAVAL SURFACE WARFARE CENTER  
DAHLGREN DIVISION



$$p_s = 1 - (1 - p_k)^n$$

PANAMA CITY, DAHLGREN



## Mission

Warfare Analysis within the Dahlgren Division of the Naval Surface Warfare Center, fulfills a key NSWC leadership responsibility and provides products and services in the following disciplines:

- Surface Warfare Analysis
- Coastal Operations Analysis
- Performance, military worth, cost and affordability, and technological opportunities
- Multiwarfare and warfare studies
- Technical policy and programmatic assessments
- Modeling and simulation (M&S)
- Advanced systems integration support in a theater context



## Areas of Expertise

Warfare Analysis is an interdisciplinary product line that provides decision support for force planning and system planning and theatre level systems engineering. NSWCDD Dahlgren provides support to the Joint Chiefs of Staff (JCS), Headquarters Marine Corps, Office of the Chief of Naval Operations, and other decision makers through technical expertise, analysis of alternatives (AOA), modeling, and simulation. Critical areas of expertise include the following:

- AOA
- Intelligence Analysis
- Force planning & force employment analysis
- System mission analysis
- Mission area analysis
- Cost and affordability analysis
- M&S strategic planning
- M&S tool development & support
- Distributed interactive simulation (DIS)
- Advanced visualization

Warfare analysts have served in major leadership roles in some of the Navy's largest cost and operational effectiveness analyses (COEAs, now AOAs). These COEAs include: Ship Self Defense System (SSDS) - Director, Theater Ballistic Missile Defense (TBMD) - Study Director, Surface Combatant - 21st Century (SC-21) - Deputy Director, and Naval Surface Fire Support (NSFS) - Director for Effectiveness and Cost. In addition, specific warfare area focused COEA's in the areas of Coastal Warfare and Surface Warfare, for example:

- Remote Minehunting System (RMS)
- Airborne Laser Mine Detection System (ALMDS)
- Advanced SEAL Delivery System (ASDS)
- Shallow Water Mine Countermeasures (SWMCM)

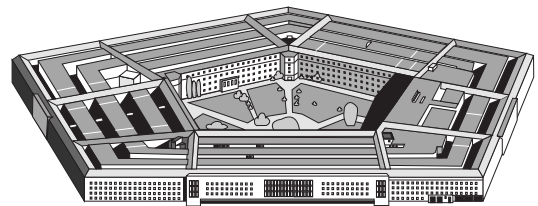
In the realm of force planning and force employment analysis, NSWCDD leads a multilaboratory interdisciplinary team in an enduring Joint Littoral Warfare (JLW) strategic planning project.

NSWCDD analysts provide direct support for the JCS Joint Warfare Capabilities Assessment (JWCA) and the Navy Joint Mission Area (JMA) processes.

NSWCDD analysts estimate life cycle costs for the full range of ship combat systems and weapons, emphasizing those in a concept or developmental status. Examples range from AEGIS to VLS to Stantard Missile to ERGM. NSWCDD has force structure cost and affordability models to evaluate DON imports of force charges and has applied these for the Navy input to the Bottom Up Review (BUR) and the Quadrennial Defense Review (QDR).

Warfare Analysis involves many different types of models. Force-level models utilized by Warfare Analysis personnel include the following:

- MARS (Multi-warfare Assessment and Research System)
- NFAM (Navy Force Affordability Model)
- DIBS (Dynamic Investment Balance Simulation)
- Force Presence Model
- PBCM (Performance Based Cost Model)
- Force Performance Models
- NABEM II (Naval Air Battle Engagement Model II)
- EADSIM (Extended Air Defense Simulation)
- NMWS (Naval Mine Warfare Simulation)



NAVAL SEA SYSTEMS COMMAND



Panama City Dahlgren

NSWCDD/MP-96/187B

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